

CLAIMS

5 1. A system for a wireless communication handset with interchangeable housing portions, comprising:

a wireless communication handset body having electrical communications circuitry coupled to an antenna;

10 a first housing portion having a first shape and a second housing portion having a second shape, the second shape of the second housing portion different than the first shape of the first housing portion;

the first and second housing portions interchangeably mounted on a common portion of the handset body,

15 the first housing portion loading the antenna with a first load when the first housing portion is mounted on the common portion of the handset body,

the second housing portion loading the antenna with the same load as the first housing portion when the second housing portion is mounted on the common portion of the handset body.

20 2. The system of Claim 1,

the antenna is an internal antenna,

a first internal portion of the first housing portion adjacent the internal antenna when the first housing portion is mounted on the handset body,

25 a second internal portion of the second housing portion adjacent the internal antenna when the second housing portion is mounted on the handset body,

a first external portion of the first housing portion opposite the first internal portion thereof different than a second external portion of the second housing opposite the second internal portion thereof.

3. The system of Claim 2, the internal antenna is a planar inverted F antenna.

4. The system of Claim 2, the first housing portion has a first antenna loading characteristic, the second housing portion has a second antenna loading characteristic made substantially the same as the first antenna loading characteristic of the first housing portion by an antenna loading feature disposed between second housing portion and the internal antenna when the second housing portion is mounted on the handset body.

5. The system of Claim 4, the antenna loading feature is a variation in a portion of the second housing portion adjacent the antenna.

6. The system of Claim 4, the antenna loading feature is a discrete member disposed between an internal side of the second housing portion and the internal antenna when the second housing portion is mounted on the handset body.

7. The system of Claim 6, the antenna loading feature comprises a conductive material.

8. The system of Claim 6, the antenna loading feature comprises a dielectric material.

9. The system of Claim 6, the antenna loading feature comprises a recessed portion on an inner side of the second housing portion adjacent the antenna.

10. A wireless communication handset system having interchangeable housing portions, comprising:

a wireless communication handset body having electrical communications circuitry coupled to an antenna;

a first housing portion of a first material having a first antenna loading characteristic and a second housing portion of a second material having a second antenna loading characteristic different than the first antenna loading characteristic of the first housing portion,

the first and second housing portions interchangeably mounted on a common portion of the handset body adjacent the antenna;

an antenna loading feature disposed between one of the first and second housing portions and the antenna,

the antenna having a first resonant frequency when the first housing portion is mounted on the common portion of the handset body,

the antenna having a second resonant frequency the same as the first resonant frequency when the second housing portion is mounted on the common portion of the handset body.

11. The system of Claim 10, the first material comprising a first finish with a first antenna loading characteristic, the second material comprising a second finish with a second antenna loading characteristic different than the first antenna loading characteristic of the first finish.

12. The system of Claim 11, the first and second housing portions have substantially the same external shape.

13. The system of Claim 11, the first finish is a metallic material applied to an exterior of the housing.

14. The system of Claim 10, the antenna is an internal antenna, a first internal portion of the first housing portion adjacent the internal antenna when the first housing portion is mounted on the handset body, a second internal portion of the second housing portion adjacent the internal antenna when the second housing portion is mounted on the handset body.

15. The system of Claim 10, the antenna loading feature is a variation in wall thickness of the first and second housing portions.

5 16. The system of Claim 15, the antenna loading feature is a discrete member disposed between an internal side of one of the first and second housing portions and the internal antenna.

10 17. The system of Claim 16, the antenna loading feature comprises a conductive material.

15 18. The system of Claim 16, the antenna loading feature comprises a dielectric material.

20 19. A wireless communication handset, comprising:
a wireless communication handset body having electrical communications circuitry coupled to an antenna;
a housing portion mounted on the handset body adjacent at least a portion of the antenna;
an antenna loading member disposed between the housing portion and the antenna,
25 the antenna loading member comprises an electrically conductive material spaced apart from the antenna by a dielectric.

20. The wireless communication handset of Claim 19, the antenna is an internal antenna, the antenna loading member comprises a conductive member separated from the internal antenna by a dielectric material.